

C L A I M S

1. A method of removing a body of selected material from the interior of a casing extending into a borehole formed in an earth formation, the method comprising:

a) lowering a drill bit for further drilling of the borehole, into the casing, the drill bit having a longitudinal axis of rotation during operation, the drill bit comprising rock cutting means, at least one protection member for protecting the inner surface of the casing from contact with the rock cutting means, each protection member being adapted to remove said selected material from the interior of the casing and being radially movable towards the inner surface of the casing, and control means for applying a radially outward force of controlled magnitude to the protection member;

b) rotating the drill bit in the casing; and

c) operating the control means so as to apply said radially outward force of controlled magnitude to the protection member.

2. The method of claim 1, whereby the drill bit comprises a reamer arm movable in radial direction relative to said axis of rotation, wherein the rock cutting means and each protection member are provided at the reamer arm, and wherein step c) comprises operating the control means so as to move the reamer arm in radially outward direction relative to the axis of rotation.

3. The method of claim 1 or 2, wherein the control means includes a pump for pumping drilling fluid via a drill

string to the drill bit, and wherein step c) comprises operating the pump at a controlled pump rate.

4. The method of any one of claims 1-3, wherein the drill bit is axially moved through the casing simultaneously with steps b) and c).

5. The method of claim 4, further comprising: before steps b) and c), operating the drill bit to drill a longitudinal bore in said body of selected material thereby forming an annular remainder portion of the body of selected material, and wherein during steps b) and c) the drill bit is axially moved through said longitudinal bore so as to remove the annular remainder portion.

6. The method of claim 5, wherein during steps b) and c) the drill bit is axially moved in upward direction through said longitudinal bore.

7. The method of any one of claims 1-6, wherein the body of selected material includes a body of cement located in a lower end portion of the casing.

8. The method of any one of claims 1-7, wherein the body of selected material extends into a lower end portion of the casing, said lower end portion having a larger inner diameter than a remainder portion of the casing.

9. A drill bit for drilling a borehole into an earth formation, the drill bit being adapted to remove a body of selected material from the interior of a casing extending into the borehole, whereby during operation the drill bit has a longitudinal axis of rotation, the drill bit comprising rock cutting means, at least one protection member for protecting the inner surface of the casing from contact with the rock cutting means, each protection member being adapted to remove said selected material from the interior of the casing and being

radially movable towards the inner surface of the casing, and control means for applying a radially outward force of controlled magnitude to the protection member.

10. The drill bit of claim 9, further comprising a reamer arm movable in radial direction relative to said axis of rotation, wherein the rock cutting means and each protection member are provided at the reamer arm, and wherein the control means is arranged to move the reamer arm in radial direction relative to said axis of rotation.

11. The drill bit of claim 10, wherein the reamer arm is provided with releasable locking means for temporarily locking the reamer arm in a radially retracted position thereof.

12. The drill bit of claim 11, wherein the locking means is releasable by the action of the control means.

13. The drill bit of any one of claims 10-12, wherein the protection member is formed as an insert in the reamer arm or as an integral part of the reamer arm.

14. The drill bit of any one of claims 10-13, wherein the reamer arm is provided with gauge protection means for protecting the reamer arm against wear during further drilling of the borehole with the drill bit, and wherein the protection member is arranged on top of the gauge protection means at the radially outward side thereof.

15. The drill bit of claim 14, wherein the gauge protection means and the protection member are integrally formed.

16. The drill bit of any one of claims 10-15, wherein the protection member has a rounded portion protruding radially outward from the reamer arm.

17. The drill bit of any one of claims 9-16, wherein the protection member is formed as scraper for scraping against said body of selected material.

18. The drill bit of any one of claims 9-17, wherein the protection member is adapted to substantially vanish due to wear during drilling into the earth formation with the drill bit.

19. The drill bit of any one of claims 9-18, wherein said body of selected material which is to be removed from the casing includes a body of cement located in a lower end portion of the casing.

20. The method substantially as described hereinbefore with reference to the drawings.

21. The drill bit substantially as described hereinbefore with reference to the drawings.